

INITIAL STATEMENT OF REASONS
PROPOSED AMENDMENTS TO APPLIANCE EFFICIENCY REGULATIONS

**CALIFORNIA CODE OF REGULATIONS,
TITLE 20, SECTIONS 1601 THROUGH 1608**

**CALIFORNIA ENERGY COMMISSION
Docket Number 08-AAER-1A
August 8, 2008**

INTRODUCTION

Existing law (Public Resources Code section 25402(c)) requires the California Energy Commission (Energy Commission) to adopt regulations that prescribe minimum efficiency levels for appliances. The Energy Commission first adopted appliance efficiency regulations in 1976 and has periodically revised them since then. The current regulations include provisions on testing of appliances to determine their efficiency, reporting of data by manufacturers to the Energy Commission, standards establishing mandatory efficiency levels, and compliance and enforcement procedures, as well as general provisions on the scope of the regulations and definitions.

The existing Appliance Efficiency Regulations include efficiency standards for lighting.

In the rulemaking proceeding that is the subject of this Initial Statement of Reasons (ISOR) and Notice of Proposed Action (NOPA), the Energy Commission is proposing to carry out the mandates established in Assembly Bill 1109 (Huffman, Chapter 534, Statutes of 2007) (AB 1109), to set new efficiency standards for general purpose lighting by December 31, 2008. It is the Energy Commission's intent for this rulemaking to adopt recently enacted federal lighting efficiency standards in advance of the effective dates for the U.S. Department of Energy as established in the Federal Energy Independence and Security Act of 2007 (EISA 2007), as codified in 42 U.S.C. beginning at section 6291. The proposed standards will have effective dates beginning January 1, 2011, for the Tier I federal general service incandescent lamp standards, and January 1, 2018, for standards related to the expected Tier II federal high efficacy general service lamp standards.

It is also the intent of the Energy Commission to adopt efficiency standards for portable luminaires to reduce lighting energy use. Portable luminaire standards will be effective January 1, 2010. The Energy Commission also intends to adopt GU 24 socket standards effective January 1, 2010 for both permanent and portable luminaires, general service lamps, and adaptors.

It should be noted that in a parallel and separate rulemaking (Docket 08-AAER-1B) the Energy Commission intends to adopt lighting efficiency standards for metal halide luminaires as part of the AB 1109 mandate to set new efficiency standards for general purpose lighting by December 31, 2008.

SPECIFIC PURPOSE, RATIONALE, AND NECESSITY OF EACH PROPOSED ADOPTION, AMENDMENT, AND REPEAL

The California economy, and the well-being of all of California's citizens, depends on an adequate, reasonably-priced, and environmentally-sound supply of energy. Recent growth in electricity demand has strained the reliability of California's electricity system and has in some circumstances contributed to a substantial rise in electricity prices. Similarly, natural gas supplies for power plants are becoming tighter, and natural gas prices are increasing.

Improvements in energy efficiency are the cheapest and most environmentally-friendly methods to help bring demand and supply into balance. Thus existing law (Public Resources Code section 25402(c)) requires the Energy Commission to adopt standards that prescribe minimum efficiency levels for appliances.

In addition, the California Lighting Efficiency and Toxics Reduction Act of 2007, added by AB 1109 and codified in Public Resources Code section 25402.5.4, found energy consumption for lighting accounts for nearly 20 percent of the state's electricity demand. The bill also declares that energy efficiencies of existing lighting technologies vary significantly, and current light bulb purchases are predominately for less efficient incandescent bulbs.

To immediately address this issue AB 1109 requires that the Energy Commission, on or before December 31, 2008, to adopt minimum energy efficiency standards for all general purpose lights on a schedule specified in the regulations. "The regulations, in combination with other programs and activities affecting lighting use in the state, shall be structured to reduce average statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and by not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting, by 2018."

The following sections are directly affected by the proposed lighting standards:

Section 1601. Scope.

Section 1601(k) "State Regulated General Service Lamps" is being added for the specific purpose and rationale of adding a new appliance type to allow for early adoption of regulations related to EISA 2007.

Section 1601 (k) "GU-24" is being added for the specific purpose and rationale of creating a socket type that may only contain high efficacy lamps.

Section 1601(n) "Portable Luminaire" Is being added for the specific purpose and rationale of introducing a new appliance type to achieve energy savings and meet California AB 1109 requirements.

Section 1601(n) "GU-24 socket and base" is being added for the specific purpose and rationale of creating a socket type that may only contain high efficacy lamps.

Section 1602. Definitions.

Section 1602(a) General

“Color rendering index (CRI)” is being added for the specific purpose and rationale to clarify the regulations which is necessary to make the language consistent with national conventions, and with other amendments adopted in Section 1605.3(n)(4).

“EISA” is being added for the specific purpose and rationale to clarify the regulations which are necessary to make the language consistent with national conventions.

“Light Emitting Diode” is being added for the specific purpose and rationale to clarify the regulations, which is necessary to make the language consistent with national conventions, and with other amendments adopted in Section 1605.3(n)(4).

“LPW” is being added for the specific purpose and rationale to clarify regulations, which is necessary to make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“Lumen” is being added for the specific purpose and rationale to clarify regulations, which is necessary to make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“OSA” is being added for the specific purpose and rationale of clarifying regulations and making the language consistent with national conventions.

Section 1602(k) Lamps is being amended as follows:

“Appliance Lamp” is being amended for the specific purpose and rationale of including EISA 2007 definitions, which is necessary to comply with the Federal act.

“Average rated life” is being added for the specific purpose and rationale of complying with the federal test method.

“Correlated Color Temperature (CCT)” is being added for the specific purpose and rationale of complying with the federal definitions in 10CFR 430.2 (2008).

“Colored incandescent lamp” is being added for the specific purpose and rationale of complying with the federal definitions in 10CFR 430.2 (2008).

“Colored incandescent lamp” is being amended for the specific purpose and rationale of including EISA 2007 definitions, which is necessary to comply with the Federal act.

“Design voltage” is being added for the specific purpose and rationale of complying with the federal definitions in 10CFR 430.2 (2008).

“Federally-regulated general service incandescent lamp” is being added for the specific purpose and rationale of including EISA 2007 definitions, which is necessary to comply with the Federal act.

“Federally-regulated general service lamp” is being added for the specific purpose and rationale of including EISA 2007 definitions, which is necessary to comply with the Federal act.

“General Service incandescent lamp” is being added for the specific purpose and rationale of complying with the federal definitions in 10CFR 430.2 (2008).

“GU-24 and GU-24 adaptor” is being added for the specific purpose and rationale of clarifying the regulations, making the language consistent with national conventions, and making the language consistent with other amendments adopted in Section 1605.3(n)(4 and 5).

“Incandescent lamp” is being modified for the specific purpose and rationale of complying with the federal definitions in 10CFR 430.2 (2008).

“Initial performance values” is being added for the specific purpose and rationale of complying with the federal test method.

“Lamp Efficacy (LE)” is being added for the specific purpose and rationale of complying with the federal test method.

“Lumen maintenance” is being added for the specific purpose and rationale of complying with the federal test method.

“Medium base compact fluorescent lamp” is being added for the specific purpose and rationale of complying with the federal definitions in 10CFR 430.2 (2008).

“Medium screw base” is being added for the specific purpose and rationale of complying with the federal definitions in 10CFR 430.2 (2008).

“Organic light-emitting diode (OLED)” is being added for the specific purpose and rationale of including EISA 2007 definitions, which is necessary to comply with the Federal act.

“Rated luminous flux” or “rated lumen output” is being added for the specific purpose and rationale of complying with the federal test method.

“Rated supply frequency” is being added for the specific purpose and rationale of complying with the federal test method

“Rated voltage” is being added for the specific purpose and rationale of complying with the federal test method.

“Rated wattage” is being amended for the specific purpose and rationale to incorporate T8, T10, and T12 lamps for the specific purpose and rationale of including EISA 2007 definitions, which is necessary to comply with the Federal act.

“Residential straight-shaped lamp” is being added for the specific purpose and rationale of complying with the federal definitions in 10CFR 430.2 (2008).

“Rough service lamp” is being amended for the specific purpose and rationale of including EISA 2007 definitions, which is necessary to comply with the Federal act.

“Self-ballasted compact fluorescent lamp” is being added for the specific purpose and rationale of complying with the federal test method.

“Shatter-resistant lamp, shatter-proof lamp, or shatter-protected lamp” is being amended for the specific purpose and rationale of including EISA 2007 definitions, which is necessary to comply with the Federal act.

“Vibration service lamp” or “Vibration resistant lamp” is being amended for the specific purpose and rationale of including EISA 2007 definitions, which is necessary to comply with the Federal act.

“Voltage range” is being added for the specific purpose and rationale of complying with the federal definitions in 10CFR 430.2 (2008).

Section 1602(n) Luminaires is being amended for:

“Color Correlated Temperature (CCT)” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“Compact Fluorescent Lamps” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“Dedicated fluorescent lamp socket” is being added for the specific purpose and rationale of clarifying regulations, making the language consistent with national conventions, and making the language consistent with other amendments adopted in Section 1605.3(n)(4).

“E12, E7, and E26 screw-based socket” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“GU-24 and GU-24 adaptor” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4 and 5).

“High Frequency Electronic Ballast” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“LED Luminaire” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“LED Light Engine with Integral Heat Sink” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“Luminaire Efficacy” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“Portable Floor Luminaires” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“Portable Luminaires” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“Portable Table Luminaires” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

“System Input Power Rating” is being added for the specific purpose and rationale to clarify regulations, make the language consistent with national conventions, and make the language consistent with other amendments adopted in Section 1605.3(n)(4).

Section 1604. Test Method for Specific Appliances

Section 1604(k) Lamps is being amended for the specific purpose and rationale of including new Federal test procedures and incorporate changes in 10 CFR Part 430 (2008), which is necessary to reference for testing federally regulated lamps for compliance.

Section 1605.3 State Standards for Non-Federally Regulated Appliances

Section 1605.3(k) Lamps language is being added to specify that Incandescent lamps shall not contain a GU-24 base for the specific purpose and rationale of creating a socket type that may only contain high efficacy lamps. Incandescent lamps are considered to be low efficacy and therefore should be excluded from having a GU-24 base.

Section 1605.3(k), Table K-9: Standards for State-regulated General Services Incandescent Lamp -Tier I and Table K-10: Standards for State-regulated General Services Incandescent Lamp -Tier II are being added for the specific purpose and rationale of adopting standards one year in advance of EISA 2007 Tier I standards and two years in advance of expected Tier II standards, as permitted in the Federal act.

Section 1605.3(n) Luminaires is being amended to add efficiency standards for “**portable luminaires**” for the specific purpose and rationale of providing efficiency standards for portable luminaires and to protect the California economy by reducing electrical demand.

Section 1605.3(n) Luminaires is being amended to add Table N-3 Minimum System Efficiency Requirements for Pin-Based Fluorescent Lamps for Portable Luminaires and Table N-4 Minimum Requirements for Portable LED Luminaires, and Portable Luminaires with LED Light Engines with Integral Heat Sink are being added for the specific purpose and rationale of providing efficiency standards for LED luminaires and LED light engines with integral heat sink and to protect the California economy by reducing electrical demand.

Section 1605.3(n) Luminaires is being amended to add that “GU-24 adaptors manufactured on or after January 1, 2010 shall not adapt a GU-24 socket to any other line voltage socket” for the specific purpose and rationale of establishing efficiency standards for adaptors capable of converting high efficacy luminaires to low efficacy luminaires and to protect the California economy by reducing electrical demand.

Section 1606: Filing by Manufacturers; Listing of Appliances in Database.

Table V, Data Submittal Requirements, Appliance “K” is being amended for:

“**Stated regulated general service incandescent lamps**” to amend the appliance and add the words “medium screw base” for the specific purpose and rationale of clarification, which is necessary to define the scope of data collection.

“**State-regulated medium screw base general service Compact Florescent Lamps**” is being added as a new appliance with specified “Required Information” for data submittal for the specific purpose and rationale of meeting the data requirements of Tier II of the California regulation, which is necessary to enforce and establish compliance.

“State-regulated medium screw base general service Light Emitting Diode Lamps” is being added as a new appliance with specified “Required Information” for data submittal for the specific purpose and rationale of meeting the data requirements of Tier II of the California regulation, which is necessary to enforce and establish compliance.

Table V, Data Submittal Requirements, Appliance “N” is being amended for: **“Portable Luminaires”** is being added as a new appliance with specified “Required Information”, “Permissible Answers,” for data submittal for the specific purpose and rationale of investigating market data to determine if additional future efficiency standards are appropriate for portable luminaire and to protect the California economy by reducing electrical demand.

Section 1606 (j) Portable Luminaires is being added to require, beginning on January 1, 2013, that manufacturers submit to the Energy Commission annual unit sales of portable non-screw based halogen luminaires sold in California for the specific purpose and rationale of investigating market data to determine if additional future efficiency standards are appropriate for portable luminaires and to protect the California economy by reducing electrical demand.

REASONS FOR MANDATING SPECIFIC ACTIONS, PROCEDURES, TECHNOLOGIES, OR EQUIPMENT; CONSIDERATION OF PERFORMANCE STANDARDS

The proposed standard for portable luminaires requires one of the following: (1) a dedicated fluorescent lamp with a pin-based socket connected to a high frequency electronic ballast with specified efficiency requirements, (2) a GU-24 line-voltage socket that is not rated for use with a incandescent lamp, (3) a light emitting diode (LED) luminaire or LED light engine with integral heat sink with specified efficiency, (4) a dimmer control or high-low control with a maximum rating for single-ended, non-screw based halogen lamp sockets or (5) an appropriate number of co-packaged specified compact fluorescent lamp (CFL) or other high efficacy lamps that can be screwed in the luminaire. The reasons for mandating specific technologies is to allow multiple compliance options which save a similar amount of energy, are equally technically feasible, and offer flexibility as requested by the lighting industry. Specific requirements for GU-24 line-voltage sockets and for LED luminaires establish minimum requirements for new lighting technologies for which national conventions have not yet been established, and both of these Title 20 requirements are consistent with similar requirements adopted in the California Title 24 Standards on April 23, 2008. The option of multiple specific technologies offer flexibility as requested by, and supported by the lighting industry. Even though a selection of specific technologies is mandated, none of these specific technologies are required as the only compliance option. Another important reason for mandating specific technologies for portable luminaires is to protect the California economy by reducing electrical demand.

STUDIES, REPORTS, AND DOCUMENTS RELIED UPON

Energy Commission Staff Report, 2008 Appliance Efficiency Rulemaking, Phase I, Part A, CEC 400-2008-022

Pat Eilert, Gary Fernstrom, Ed Elliot, "Proposal Information Template for General Purpose Lighting", Pacific Gas and Electric Company, January 30, 2008.

Pat Eilert, Gary Fernstrom, Ed Elliot, "Analysis of Standards Options for General Purpose Lighting", Pacific Gas and Electric Company, May 20, 2008.

Pat Eilert, Gary Fernstrom, Ed Elliot, "Proposal Information Template for portable lighting fixture", Pacific Gas and Electric Company, January 30, 2008.

Pat Eilert, Gary Fernstrom, Ed Elliot, "Analysis of Standards Options portable lighting fixtures", Pacific Gas and Electric Company, April 3, 2008.

Clark Linstone, "Proposal Information Template for Portable Lighting Fixtures", American Lighting Association, April 7, 2008.

Jennifer Amann, "Analysis for Portable fixtures and Metal Halide" July 31, 2008.

Pat Eilert, Gary Fernstrom, Ed Elliot, "Comments in Response to the American Lighting Association: Proposal Information Template – Portable Lighting Fixtures – A." April 15, 2008.

REASONABLE ALTERNATIVES, IF ANY, TO THE PROPOSED AMENDMENTS THAT WERE CONSIDERED, INCLUDING ALTERNATIVES TO LESSEN IMPACTS ON SMALL BUSINESS, AND REASONS FOR REJECTING THEM

The Energy Commission is proposing new minimum efficiency standards for portable luminaires that include alternative compliance options deemed necessary and intended to lessen impacts on small businesses for portable lighting luminaires. The standards were feasible and cost effective and no alternative were found to lessen impacts on small businesses. Small businesses that purchase lighting appliances subject to efficiency standards sometimes have to pay increased purchase costs for those appliances. However, those costs are always more than made up by reductions in electricity bills and no alternative was found to lessen impacts to small business. The basis for this determination is supported by the findings in the document titled "*Energy Commission Staff Report, 2008 Appliance Efficiency Rulemaking, Phase I, Part A, CEC 400-2008-022*"

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE RELIED UPON TO SUPPORT THE INITIAL DETERMINATION, IN THE NOTICE OF PROPOSED ACTION THAT THE REGULATION WILL NOT HAVE A SIGNIFICANT ADVERSE ECONOMIC IMPACT ON BUSINESSES

The basis for this determination is supported by the findings in the document titled *“Energy Commission Staff Report, 2008 Appliance Efficiency Rulemaking, Phase I, Part A, CEC 400-2008-022”*

EFFORTS TO AVOID UNNECESSARY DUPLICATION OR CONFLICT WITH THE CODE OF FEDERAL REGULATIONS

The proposed regulations neither duplicate nor conflict with any federal regulation. There are extensive federal regulations on appliance efficiency regulations adopted by the Department of Energy that preempt the Energy Commission’s appliance efficiency regulations. (See 42 U.S.C. section 6291 et seq., 10 CFR Parts 430, 431.) However, the proposed amendments affect only those appliances that are not covered by these [preempted federal regulations], except for minor clarifications and corrections that do not duplicate or conflict with any federal regulation.